



1600

## RAW SEQUENCE LISTING

DATE: 11/18/2002

PATENT APPLICATION: US/08/160,965A

TIME: 12:46:16

Input Set : N:\vernette\08160965A.RAW.txt

Output Set: N:\CRF4\11182002\H160965A.raw

3 <110> APPLICANT: Musser, James M.  
 4 Kapur, Vivek  
 6 <120> TITLE OF INVENTION: Vaccines Containing Cysteine Protease and Methods to Protect  
 Against Group A  
 7 Streptococci  
 9 <130> FILE REFERENCE: P00965US0  
 11 <140> CURRENT APPLICATION NUMBER: US 08/160,965A  
 12 <141> CURRENT FILING DATE: 1993-12-02  
 14 <160> NUMBER OF SEQ ID NOS: 22  
 16 <170> SOFTWARE: PatentIn version 3.1  
 18 <210> SEQ ID NO: 1  
 19 <211> LENGTH: 11  
 20 <212> TYPE: PRT  
 21 <213> ORGANISM: streptococcus pyogenes  
 23 <400> SEQUENCE: 1  
 25 Gln Pro Val Val Lys Ser Leu Leu Asp Ser Lys  
 26 1 5 10  
 29 <210> SEQ ID NO: 2  
 30 <211> LENGTH: 22  
 31 <212> TYPE: DNA  
 32 <213> ORGANISM: Artificial Sequence  
 34 <220> FEATURE:  
 35 <223> OTHER INFORMATION: Primer  
 37 <400> SEQUENCE: 2  
 38 gttgtcagtg tcaactaacc gt 22  
 41 <210> SEQ ID NO: 3  
 42 <211> LENGTH: 22  
 43 <212> TYPE: DNA  
 44 <213> ORGANISM: Artificial Sequence  
 46 <220> FEATURE:  
 47 <223> OTHER INFORMATION: Primer  
 49 <400> SEQUENCE: 3  
 50 atctgtgtct gatgatagc tt 22  
 53 <210> SEQ ID NO: 4  
 54 <211> LENGTH: 23  
 55 <212> TYPE: DNA  
 56 <213> ORGANISM: Artificial Sequence  
 58 <220> FEATURE:  
 59 <223> OTHER INFORMATION: Primer  
 61 <400> SEQUENCE: 4  
 62 ctttctggct ctaatatgta tgt 23  
 65 <210> SEQ ID NO: 5  
 66 <211> LENGTH: 20  
 67 <212> TYPE: DNA

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68 <213> ORGANISM: Artificial Sequence
70 <220> FEATURE:
71 <223> OTHER INFORMATION: Primer
73 <400> SEQUENCE: 5
74 gttattgaaa aagtaaaacc                                20
77 <210> SEQ ID NO: 6
78 <211> LENGTH: 20
79 <212> TYPE: DNA
80 <213> ORGANISM: Artificial Sequence
82 <220> FEATURE:
83 <223> OTHER INFORMATION: Primer
85 <400> SEQUENCE: 6
86 ttttcaataa caggtgtcaa                                20
89 <210> SEQ ID NO: 7
90 <211> LENGTH: 20
91 <212> TYPE: DNA
92 <213> ORGANISM: Artificial Sequence
94 <220> FEATURE:
95 <223> OTHER INFORMATION: Primer
97 <400> SEQUENCE: 7
98 tctcctgaaa cgataacaaa                                20
101 <210> SEQ ID NO: 8
102 <211> LENGTH: 20
103 <212> TYPE: PRT
104 <213> ORGANISM: Artificial Sequence
106 <220> FEATURE:
107 <223> OTHER INFORMATION: Synthetic Sequence
109 <400> SEQUENCE: 8
111 His Gln Ile Asn Arg Ser Asp Phe Ser Lys Gln Asp Trp Glu Ala Gln
112 1          5          10          15
115 Ile Asp Lys Glu
116          20
119 <210> SEQ ID NO: 9
120 <211> LENGTH: 19
121 <212> TYPE: PRT
122 <213> ORGANISM: Artificial Sequence
124 <220> FEATURE:
125 <223> OTHER INFORMATION: Synthetic Sequence
127 <400> SEQUENCE: 9
129 His Gln Ile Asn Gly Asp Phe Ser Lys Gln Asp Trp Glu Ala Gln Ile
130 1          5          10          15
133 Asp Lys Glu
137 <210> SEQ ID NO: 10
138 <211> LENGTH: 19
139 <212> TYPE: PRT
140 <213> ORGANISM: Artificial Sequence
142 <220> FEATURE:
143 <223> OTHER INFORMATION: Synthetic Sequence
145 <400> SEQUENCE: 10

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```

147 His Gln Ile Asn Ser Asp Phe Ser Lys Gln Asp Trp Glu Ala Gln Ile
148 1          5          10          15
151 Asp Lys Glu
155 <210> SEQ ID NO: 11
156 <211> LENGTH: 16
157 <212> TYPE: PRT
158 <213> ORGANISM: Artificial Sequence
160 <220> FEATURE:
161 <223> OTHER INFORMATION: Synthetic Sequence
163 <400> SEQUENCE: 11
165 Pro Val Ile Glu Lys Val Lys Pro Gly Glu Gln Ser Phe Val Gly Gln
166 1          5          10          15
169 <210> SEQ ID NO: 12
170 <211> LENGTH: 16
171 <212> TYPE: PRT
172 <213> ORGANISM: Artificial Sequence
174 <220> FEATURE:
175 <223> OTHER INFORMATION: Synthetic Sequence
177 <400> SEQUENCE: 12
179 Tyr His Asn Tyr Pro Asn Lys Gly Leu Lys Asp Tyr Thr Tyr Thr Leu
180 1          5          10          15
183 <210> SEQ ID NO: 13
184 <211> LENGTH: 15
185 <212> TYPE: PRT
186 <213> ORGANISM: Artificial Sequence
188 <220> FEATURE:
189 <223> OTHER INFORMATION: Synthetic Sequence
191 <400> SEQUENCE: 13
193 Pro Thr Tyr Ser Gly Arg Glu Ser Asn Val Gln Lys Met Ala Ile
194 1          5          10          15
197 <210> SEQ ID NO: 14
198 <211> LENGTH: 11
199 <212> TYPE: PRT
200 <213> ORGANISM: Artificial Sequence
202 <220> FEATURE:
203 <223> OTHER INFORMATION: Synthetic Sequence
205 <400> SEQUENCE: 14
207 Ile Asp Gly Ala Asp Gly Arg Asn Phe Tyr His
208 1          5          10
211 <210> SEQ ID NO: 15
212 <211> LENGTH: 10
213 <212> TYPE: PRT
214 <213> ORGANISM: Artificial Sequence
216 <220> FEATURE:
217 <223> OTHER INFORMATION: Hypothetical
219 <400> SEQUENCE: 15
221 Gln Ile Asn Arg Ser Asp Phe Ser Lys Gln
222 1          5          10
225 <210> SEQ ID NO: 16

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```

226 <211> LENGTH: 10
227 <212> TYPE: PRT
228 <213> ORGANISM: Artificial Sequence
230 <220> FEATURE:
231 <223> OTHER INFORMATION: Hypothetical
233 <400> SEQUENCE: 16
235 Gln Ile Asn Arg Gly Asp Phe Ser Lys Gln
236 1           5           10
239 <210> SEQ ID NO: 17
240 <211> LENGTH: 6
241 <212> TYPE: PRT
242 <213> ORGANISM: streptococcus pyogenes
244 <400> SEQUENCE: 17
246 Gly Val Gly Lys Val Gly
247 1           5
250 <210> SEQ ID NO: 18
251 <211> LENGTH: 9
252 <212> TYPE: PRT
253 <213> ORGANISM: streptococcus pyogenes
255 <220> FEATURE:
256 <221> NAME/KEY: MISC_FEATURE
257 <222> LOCATION: (1)..(9)
258 <223> OTHER INFORMATION: X equals unknown
261 <400> SEQUENCE: 18
W--> 263 Gly Xaa Xaa Gly Xaa Xaa Gly Xaa Xaa
264 1           5
267 <210> SEQ ID NO: 19
268 <211> LENGTH: 15
269 <212> TYPE: DNA
270 <213> ORGANISM: Artificial Sequence
272 <220> FEATURE:
273 <223> OTHER INFORMATION: Synthetic Sequence
275 <220> FEATURE:
276 <221> NAME/KEY: misc_feature
277 <222> LOCATION: (1)..(15)
278 <223> OTHER INFORMATION: N equals unknown and can occur an infinite number of times
281 <400> SEQUENCE: 19
W--> 282 gaagagcngc tcttc
285 <210> SEQ ID NO: 20
286 <211> LENGTH: 15
287 <212> TYPE: DNA
288 <213> ORGANISM: Artificial Sequence
290 <220> FEATURE:
291 <223> OTHER INFORMATION: Synthetic Sequence
293 <220> FEATURE:
294 <221> NAME/KEY: misc_feature
295 <222> LOCATION: (1)..(15)
296 <223> OTHER INFORMATION: N equals unknown and can occur an infinite number of times
299 <400> SEQUENCE: 20

```

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TIME: 12:46:16

Input Set : N:\vernette\08160965A.RAW.txt

Output Set: N:\CRF4\11182002\H160965A.raw

W--> 300 cttctcgncg agaag 15  
303 <210> SEQ ID NO: 21  
304 <211> LENGTH: 20  
305 <212> TYPE: DNA  
306 <213> ORGANISM: Artificial Sequence  
308 <220> FEATURE:  
309 <223> OTHER INFORMATION: Synthetic Sequence  
311 <220> FEATURE:  
312 <221> NAME/KEY: misc\_feature  
313 <222> LOCATION: (1)..(20)  
314 <223> OTHER INFORMATION: N equals unknown and can occur an infinite number of times  
317 <400> SEQUENCE: 21

W--> 318 nnnngaagag cngctcttcn 20  
321 <210> SEQ ID NO: 22  
322 <211> LENGTH: 20  
323 <212> TYPE: DNA  
324 <213> ORGANISM: Artificial Sequence  
326 <220> FEATURE:  
327 <223> OTHER INFORMATION: Synthetic Sequence  
329 <220> FEATURE:  
330 <221> NAME/KEY: misc\_feature  
331 <222> LOCATION: (1)..(20)  
332 <223> OTHER INFORMATION: N equals unknown and can occur an infinite number of times  
335 <400> SEQUENCE: 22

W--> 336 ncttctcgnc gagaagnnnn 20

RAW SEQUENCE LISTING ERROR SUMMARY      DATE: 11/18/2002  
PATENT APPLICATION: US/08/160,965A      TIME: 12:46:17

Input Set : N:\vernette\08160965A.RAW.txt  
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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:18; Xaa Pos. 2,3,5,6,8,9  
Seq#:19; N Pos. 8  
Seq#:20; N Pos. 8  
Seq#:21; N Pos. 1,2,3,4,12,20  
Seq#:22; N Pos. 1,9,17,18,19,20

Invalid Line Length:

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:1; Line(s) 6

## VERIFICATION SUMMARY

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Input Set : N:\vernette\08160965A.RAW.txt

Output Set: N:\CRF4\11182002\H160965A.raw

L:263 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:18 after pos.:0  
L:282 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:19 after pos.:0  
L:300 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20 after pos.:0  
L:318 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:21 after pos.:0  
L:336 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:22 after pos.:0